UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte JOHN E. HOLLAND
and
CONNIE W. HOLLAND

Appeal No. 2005-0288
Application No. 10/075,786

HEARD: March 9, 2005

Before McQUADE, NASE, and BAHR, Administrative Patent Judges.

NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection (mailed March 17, 2003) of claims 1 to 13 and 27 to 40, which are all of the claims pending in this application.[1]

We AFFIRM.

[1] Claims 14 to 26 were canceled subsequent to the final rejection.

BACKGROUND

The appellants' invention relates to the field of protective coverings, and, more particularly to a protective cover for lengths of material such as ropes, tethers, lanyards, etc. of the type that are likely to be subjected to continuous abrasion and/or exposure to undesirable environmental conditions or chemicals (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Kite, III et al. (Kite)	4,891,256	Jan. 2, 1990
Holt et al. (Holt)	5,070,597	Dec. 10, 1991
Andrieu et al. (Andrieu)	5,300,337	Apr. 5, 1994
Holland et al. (Holland)	5,395,682	Mar. 7, 1995
Ratigan	5,441,790	Aug. 15, 1995

The rejections under appeal are as follows:[2]

[2] In the final rejection (p. 3) claims 1 to 13 were provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1 to 13 of copending Application No. 09/860,423. The appellants filed a Terminal Disclaimer on October 30, 2003 supposedly to obviate the provisional double patenting rejection based on pending Application Number 09/860,423. However, while a Terminal Disclaimer can obviate a provisional "obviousness type" double patenting rejection, a Terminal Disclaimer can not obviate a provisional "same invention type" double patenting rejection. The appellants have not contested this rejection in the brief. The examiner has not set forth this rejection in the answer. It is unclear to us as to the status of this rejection.

1. Claims 1 to 9 and 27 to 35 stand rejected under 35 U.S.C. § 103 as being unpatentable over Andrieu in view of Holland.

2. Claim 40 stands rejected under 35 U.S.C. § 103 as being unpatentable over Ratigan in view of Holland.

3. Claims 10 to 12 and 36 to 38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Andrieu in view of Holland (herein referred to as modified Andrieu), as applied to claims 1 and 27 above, further in view of Kite.

4. Claims 13 and 39 stand rejected under 35 U.S.C. § 103 as being unpatentable over Andrieu in view of Holland, as applied to claims 1 and 27 above, further in view of Holt.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final rejection and the answer (mailed February 24, 2004) for the examiner's complete reasoning in support of the rejections, and to the brief (filed July 2, 2003) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the

respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

Rejection 1

We sustain the rejection of claims 1 to 9 and 27 to 35 under 35 U.S.C. § 103 as being unpatentable over Andrieu in view of Holland.

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

Claim 1 reads as follows:

> A protective cover for lengths of material used in environments in which said lengths of material are subjected to abrasion, chemicals, or weather extremes, said protective cover comprising a sleeve surrounding said length of material, said sleeve having open ends and formed of a fabric made substantially of high performance yarns having a tensile modulus equal to or greater than 150 grams/denier and a tenacity equal to or greater than 7

grams/denier so that the protective cover is abrasion-resistant, cut-resistant, and tear-resistant.[3]

Andrieu's invention relates to wraparound fabric sleeves of interlaced fibrous materials, the sleeves being preferably formed by a weaving process. More particularly, Andrieu's invention relates to wraparound sleeves having a closure device and even more specifically to wraparound sleeves for the protection of elongated articles, such as cables wherein the sleeves are intended to provide protection from the effects of abrasion or heat as well as to maintain the elongated articles in a neatly bundled arrangement so that they are not damaged by moving machinery parts or the like.

Andrieu teaches (column 1, lines 48-61) that (1) a need exists for a simple and reliable, relatively low cost system, for closure of a sleeve which will accommodate variations in the diameter of a bundle of elongated articles, such as cables having

[3] The appellants' specification (p. 2) teaches that the protective cover is constructed from a woven fabric formed primarily from high- strength (high performance) yarns. As used herein, "high-strength yarns" refers to the entire family of yarns that have a tensile modulus equal to or greater than 150 grams/denier and a tenacity equal to or greater than 7 grams/denier. Such high strength yams may be formed from long chain polyethylene fibers (known as SPECTRA®), aramids such as KEVLAR® (Dupont), liquid crystal polymers such as VECTRAN® (Hoechst Celanese), or combinations thereof. The preferred yarn for the fabric is available from suppliers, such as Allied Signal, under the tradename SPECTRA®. Fabrics woven or knitted from selected one of these yarns have a high level of tear-resistance, abrasion-resistance, cut-and-stab resistance, ultraviolet radiation resistance, and resistance to chemicals and low temperatures. These characteristics improve both the strength and durability of the fabric. In addition, fabric so formed is only about one-third the weight of conventional fabrics like vinyl-coated nylons and polyesters.

connectors intermediate their length, while allowing for cable breakouts at points where a cable is required to be connected to a particular instrument or item of equipment; and (2) in accordance with the invention, a ribbon or web of sleeving material is provided, the sleeving material being comprised of monofilament warps and bulky multi-filament yarn as the fill material.

Figures 1 and 2 of Andrieu illustrate a woven fabric sleeve material of the kind incorporating the features of his invention. The sleeve material is comprised of monofilament warps 10 which are formed of polyester or other suitable material which are preferably of the family of materials commonly referred to as engineered plastics. Materials in the family of engineered plastics of the type referred to by Andrieu include plastics that have a tensile modulus of greater than 50,000 psi and in the range of from about 50,000 to about 200,000.

Holland's invention is directed to flexible curtains for covering cargo containers, luggage trailers, and truck openings, and more particularly, to a fabric curtain cover that has minimal weight, but increased abrasion resistance, tear-strength, cut-and-stab resistance, and is compatible with the environment for which it is intended. In the BACKGROUND OF THE INVENTION section, Holland discusses the disadvantages of

the standard cargo cover constructed from canvas or from vinyl coated nylon or polyester. Then, in the SUMMARY OF THE INVENTION section, Holland teaches that:

> The present invention is directed to an improved fabric and fabric cargo cover fabricated from yarns formed of long chain expanded polyethylene fibers. One source of such fibers is sold by Allied Signal under the trademark "Spectra". These fibers are sometimes referred to as "ultra high molecular weight polyethylene" within the scope of U.S. Pat. No. 4,413,110. The specification and teachings of this patent are incorporated by reference. Such a fabric has a high level of tear-resistance, abrasion resistance, cut-and-stab resistance, and chemical and cold resistance to improve the strength and durability of the fabric. In addition, such fabric is about one-third the weight of such conventional fabrics as vinyl coated nylon. This results in fuel savings of about $30 per year for each pound of fabric used.

Holland teaches (column 3, lines 16-24) that:

> The improved fabric is intended to be used as a fabric to cover cargo containers, luggage trailers, and truck openings. While the improved fabric can be used for a variety of purposes, the ensuing description is directed to a fabric cover for a cargo container.
>
> Accordingly, it is an object of the present invention to provide a durable, lightweight fabric that has improved tear-strength, cut-and-stab resistance, abrasion resistance, cold resistance, and chemical resistance.

Holland further teaches (column 6, lines 3-9) that:

> The present invention has been described as utilized on a cargo cover 10 for a cargo container 12. The fabric 30 used for cargo cover 10 may also be used for luggage trailer curtains and truck closure curtains generally covered by fabric and other uses where a lightweight, tear-resistant, abrasion resistant, stab-and-cut resistant, chemical resistant, and cold resistant fabric is required.

In the rejection of claim 1, the examiner ascertained (answer, p. 7) that Andrieu does not disclose the protective cover being made from high performance yarns having a tensile modulus equal to or greater than 150 grams/denier and a tenacity equal to or greater than 7 grams/denier, wherein the yarns are cut and tear resistant. The examiner then determined (answer, pp. 8-9) that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the protective cover of Andrieu (which is made of polyester fibers) to comprise Spectra® fibers and the fabric parameters of the protective fabric as taught by Holland because Holland teaches that such a fabric by made of commercially available Spectra® fibers and having the specified parameters, overcomes the disadvantages of polyester fabric covers, has minimal weight, increased abrasion resistance, tear strength, cut and stab resistance, and is compatible with the environment in which the cover is used.

The appellants argue that claim 1 is not suggested by the teachings of Andrieu and Holland for the following reasons. First, Andrieu's cover is not formed from a high performance yarn. Second, Holland is directed to a cargo curtain, not a protective sleeve, and as such is non-analogous. Third, there is no motivation, absent the use of impermissible hindsight, for a person having ordinary skill in the art to have combined the teachings of Andrieu and Holland so as to arrive at the claimed invention. Lastly,

the appellants urge that Andrieu's invention is directed to a low cost fabric which teaches away from the invention which utilizes a costly high performance yarn.

In our view, the combined teachings of Andrieu and Holland would have made it obvious at the time the invention was made to a person having ordinary skill in the art to have modified the protective cover of Andrieu so as to utilize Spectra® fibers as set forth in the rejection under appeal. We find the appellants' arguments unpersuasive for the following reasons.

First, while Andrieu's cover is not formed from a high performance yarn[4], the teachings of Holland are sufficient to have made it obvious at the time the invention was made to a person having ordinary skill in the art to have modified the protective cover of Andrieu so as to utilize Spectra® fibers. In this regard, we note the rejection is under 35 U.S.C. § 103 not 35 U.S.C. § 102.

Second, while Holland is directed to a cargo curtain, not a protective sleeve, Holland is analogous art. The test for non-analogous art is first whether the art is within the field of the inventor's endeavor and, if not, whether it is reasonably pertinent to the

[4] The appellants' specification (p. 2) teaches that a high- strength (high performance) yarn has a tensile modulus equal to or greater than 150 grams/denier and a tenacity equal to or greater than 7 grams/denier.

problem with which the inventor was involved. In re Wood, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). A reference is reasonably pertinent if, even though it may be in a different field of endeavor, it logically would have commended itself to an inventor's attention in considering his problem because of the matter with which it deals. In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992). In the present instance, we are informed by the appellants' originally filed specification (p. 2) that the present invention is directed to a simple, yet effective, abrasion-resistant protective system for lengths of material such as hoses, cables, ropes, etc. of the type used in high abrasion applications. Holland teaches that his fabric has a high level of tear-resistance, abrasion resistance, cut-and-stab resistance, and chemical and cold resistance to improve the strength and durability of the fabric and thus falls at least into the latter category of the Wood test, and logically would have commended itself to an artisan's attention in considering the appellants' problem. Thus, we conclude that Holland is analogous art.

Third, there is motivation, without the use of impermissible hindsight[5], for a person having ordinary skill in the art to have combined the teachings of Andrieu and

[5] The use of hindsight knowledge derived from the appellants' own disclosure to support an obviousness rejection under 35 U.S.C. § 103 is impermissible. See, for example, W. L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Holland so as to arrive at the claimed invention. Holland's clear teaching that a fabric made of commercially available Spectra® fibers has minimal weight, increased abrasion resistance, tear strength, and cut and stab resistance which overcomes the disadvantages of polyester fabric covers provides, in our opinion, sufficient motivation for an artisan to have modified Andrieu's protective cover by using Spectra® fibers, thus arriving at the claimed invention. Additionally, we note that Holland also teaches that his improved fabric can be used for uses other than as a cargo cover where a lightweight, tear-resistant, abrasion resistant, stab-and-cut resistant, chemical resistant, and cold resistant fabric is required.

Lastly, Andrieu's invention does not teach away from the claimed invention. As to the specific question of "teaching away," our reviewing court in In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994) stated "a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." In this case, Andrieu does not teach or suggest that high performance yarns would not work in a protective sleeve. Instead, Andrieu teaches that the woven fabric sleeve material is comprised of monofilament warps which are formed of polyester or other suitable material from the family of materials commonly referred to as engineered plastics. As such, it is our

view that Andrieu suggests utilizing engineered plastics to form the woven fabric sleeve. Holland clearly teaches the benefits of a fabric which utilizes an engineered plastic high performance yarn (i.e., Spectra® fibers).

For the reasons set forth above, the decision of the examiner to reject claim 1 under 35 U.S.C. § 103 is affirmed.

The decision of the examiner to reject claims 2 to 9 and 27 to 35 under 35 U.S.C. § 103 is also affirmed since the appellants have not argued separately the patentability of any particular claim apart from the others, thus allowing claims 2 to 9 and 27 to 35 to fall with claim 1 (see In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); and In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978)).

Rejection 2

We sustain the rejection of claim 40 under 35 U.S.C. § 103 as being unpatentable over Ratigan in view of Holland.

Claim 40 reads as follows:

> An abrasion-resistant rope that must be periodically moved or pulled across abrasive services comprising an outer protective layer formed substantially from high performance yarns having a tensile modulus equal to or greater than 150 grams/denier and a tenacity equal to or greater than 7 grams/denier so that the protective layer is abrasion-resistant, cut-resistant, and tear-resistant.

Ratigan's invention relates to the protection of synthetic rope from abrasion, more specifically chafe abrasion of synthetic marine mooring and anchor rope. Ratigan's chafe protection device consists of a piece of textile material made of synthetic fiber, like nylon, or polypropylene, or polyester, or acrylic. Referring to Figures 1-3, the chafe protection device comprises a section of material, consisting of synthetic fiber material on one side 1 and latex mat backing on the reverse side 2. Permanently attached to the longitudinal borders of the latex mat surface material 2 are continuous strips of VELCRO® hooks 3 and 4. To cover a rope with the protective device, either of the longitudinal strips, 3 or 4, are placed on and in longitudinal alignment with the rope 5. The protective material is then wrapped tightly by hand around the rope. A completed wrap is shown in Figure 4. Unraveling of the protective device from the rope is prevented by the remaining longitudinal strip of VELCRO® hooks, 3 or 4 which bind with the fiber material 1 of the protective device.

In the rejection of claim 40, the examiner ascertained (answer, pp. 9-10) that Ratigan does not disclose the protective cover being made from high performance yarns having a tensile modulus equal to or greater than 150 grams/denier and a tenacity equal to or greater than 7 grams/denier, wherein the yarns are cut resistant. The examiner then determined (answer, p. 10) that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the protective cover of Ratigan (which is made of polyester fibers) to comprise Spectra® fibers and the fabric parameters of the protective fabric as taught by Holland because Holland teaches that such a fabric by made of commercially available Spectra® fibers and having the specified parameters, overcomes the disadvantages of polyester fabric covers, has minimal weight, increased abrasion resistance, tear strength, cut and stab resistance, and is compatible with the environment in which the cover is used.

The appellants argue that claim 40 is not suggested by the teachings of Ratigan and Holland for the following reasons. First, Ratigan's protective cover is not formed from a high performance yarn. Second, Holland is directed to a cargo curtain, not a protective sleeve, and as such is non-analogous. Third, there is no motivation, absent the use of impermissible hindsight, for a person having ordinary skill in the art to have combined the teachings of Ratigan and Holland so as to arrive at the claimed invention.

In our view, the combined teachings of Ratigan and Holland would have made it obvious at the time the invention was made to a person having ordinary skill in the art to have modified the protective cover of Ratigan so as to utilize Spectra® fibers as set forth in the rejection under appeal. We find the appellants' arguments unpersuasive for the following reasons.

First, while Ratigan's cover is not formed from a high performance yarn, the teachings of Holland are sufficient to have made it obvious at the time the invention was made to a person having ordinary skill in the art to have modified the protective cover of Ratigan so as to utilize Spectra® fibers. In this regard, we note the rejection is under 35 U.S.C. § 103 not 35 U.S.C. § 102.

Second, Holland is analogous art for the reasons set forth above.

Lastly, there is motivation, without the use of impermissible hindsight, for a person having ordinary skill in the art to have combined the teachings of Ratigan and Holland so as to arrive at the claimed invention. Holland's clear teaching that a fabric made of commercially available Spectra® fibers has minimal weight, increased abrasion resistance, tear strength, and cut and stab resistance which overcomes the disadvantages of polyester fabric covers provides, in our opinion, sufficient motivation

for an artisan to have modified Ratigan's protective cover by using Spectra® fibers, thus arriving at the claimed invention. Additionally, we note that Holland also teaches that his improved fabric can be used for uses other than as a cargo cover where a lightweight, tear-resistant, abrasion resistant, stab-and-cut resistant, chemical resistant, and cold resistant fabric is required.

For the reasons set forth above, the decision of the examiner to reject claim 40 under 35 U.S.C. § 103 is affirmed.

Rejection 3

We sustain the rejection of claims 10 to 12 and 36 to 38 under 35 U.S.C. § 103 as being unpatentable over Andrieu in view of Holland and Kite.

In this rejection, the examiner proposes to combine the closure device of Andrieu as modified by Holland, and the plurality of axially compressible and radially expansible devices of Kite (see Figure 3). The appellants argue (brief, p. 10) that:

> As argued above, Andrieu et al. cannot be properly modified by Holland et al. Further, the Examiner again provides no explanation how or why one of ordinary skill would be motivated to modify Andrieu et al., and there is no teaching, suggestion, or motivation in Andrieu et al. for such a modification.

The appellants' argument is unpersuasive. First, there is ample motivation to modify Andrieu based on the teachings of Holland as set forth previously. Second, both Andrieu and Kite provide sufficient motivation to have made it obvious at the time the invention was made to a person having ordinary skill in the art to form the protective cover as a plurality of bands to provide cable breakouts as shown in Figure 3 of Kite.

For the reasons set forth above, the decision of the examiner to reject claims 10 to 12 and 36 to 38 under 35 U.S.C. § 103 is affirmed.

Rejection 4

We sustain the rejection of claims 13 and 39 under 35 U.S.C. § 103 as being unpatentable over Andrieu in view of Holland and Holt.

In this rejection, the examiner proposes to combine the closure device of Andrieu as modified by Holland, and the tubular rubber member of Holt to obtain a protective cover with a fabric hood fastened to at least one end. The appellants argue (brief, pp. 10-11) that there is no teaching, suggestion, or motivation in the applied prior art for such a modification.

The appellants' argument is unpersuasive. It is our opinion that Holt's teaching of end cap 19 (see Figure 6D) provides sufficient motivation to have made it obvious at the time the invention was made to a person having ordinary skill in the art to add an end cap to the closure device of Andrieu as modified by Holland so as to close off the end of a cable or hose.

For the reasons set forth above, the decision of the examiner to reject claims 13 and 39 under 35 U.S.C. § 103 is affirmed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 13 and 27 to 40 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

JOHN P. McQUADE
Administrative Patent Judge

JEFFREY V. NASE
Administrative Patent Judge

JENNIFER D. BAHR
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

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